Temporal.pdf

This file contains additional information about the linear regression model that modeled weekly mosquito infection rate.

A) Scatter plots between key covariates and mosquito infection

B) Residual plots, autocorrelation function graphs, and Q-Q plots for the four linear regression models described in Table 2 in ms.
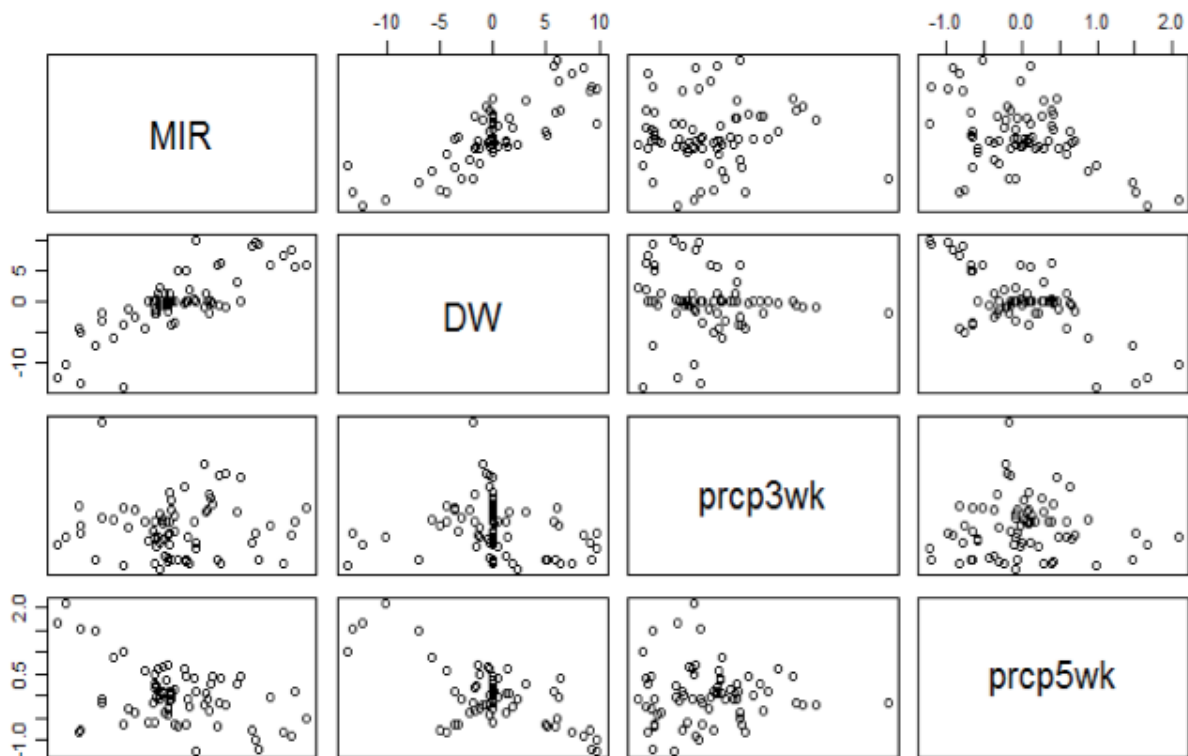
C) Equations for each of the four models

Figure A. Scatterplots between mosquito infection rate (MIR), Degree Week (DW), precipitation with 3-week average (prcp3wk), and precipitation with 5-week average (prcp5wk).
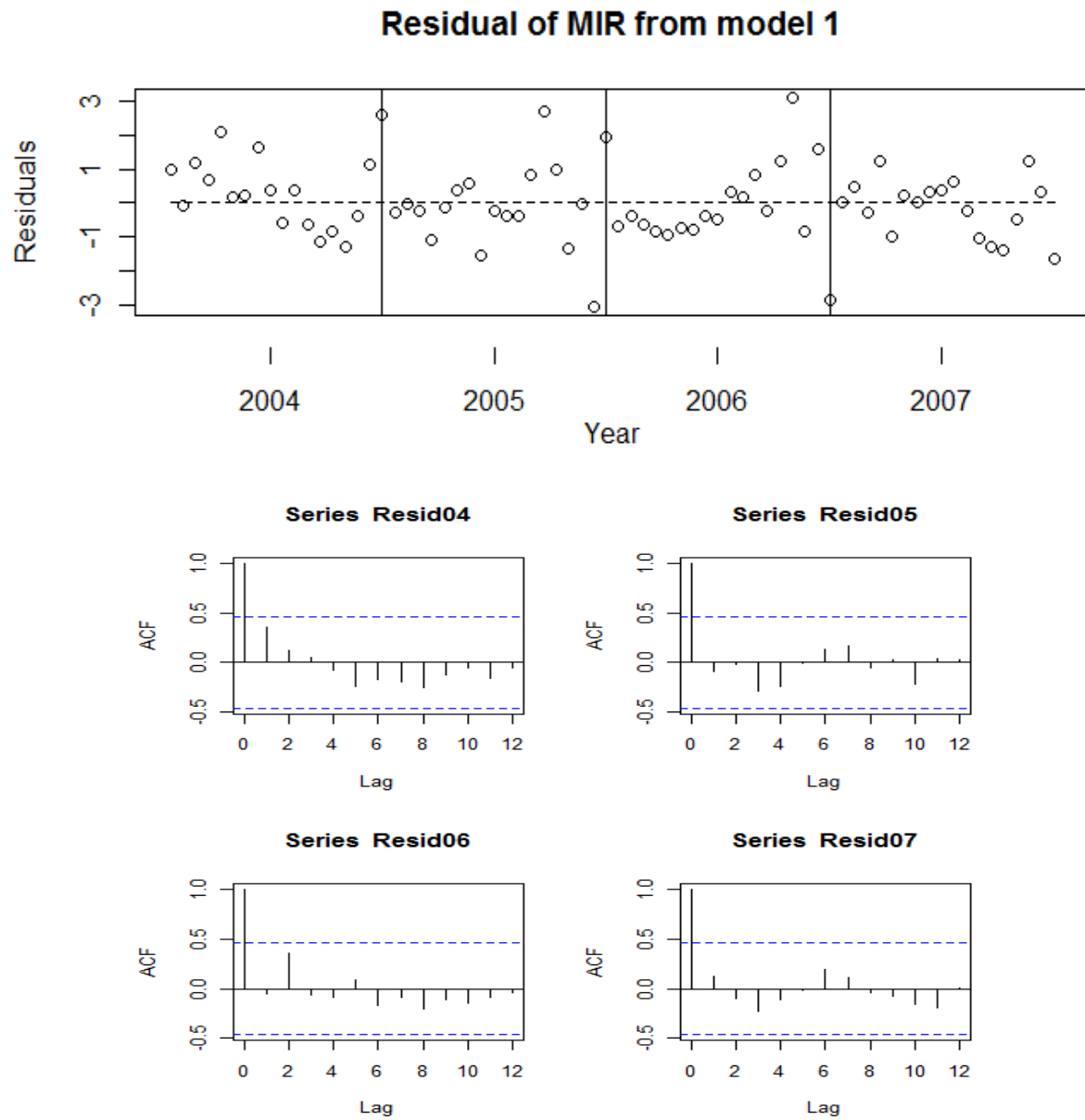
Figure B1. Residuals from model 1 (top) and the Autocorrelation Function (ACF) for the residuals for each year (bottom)
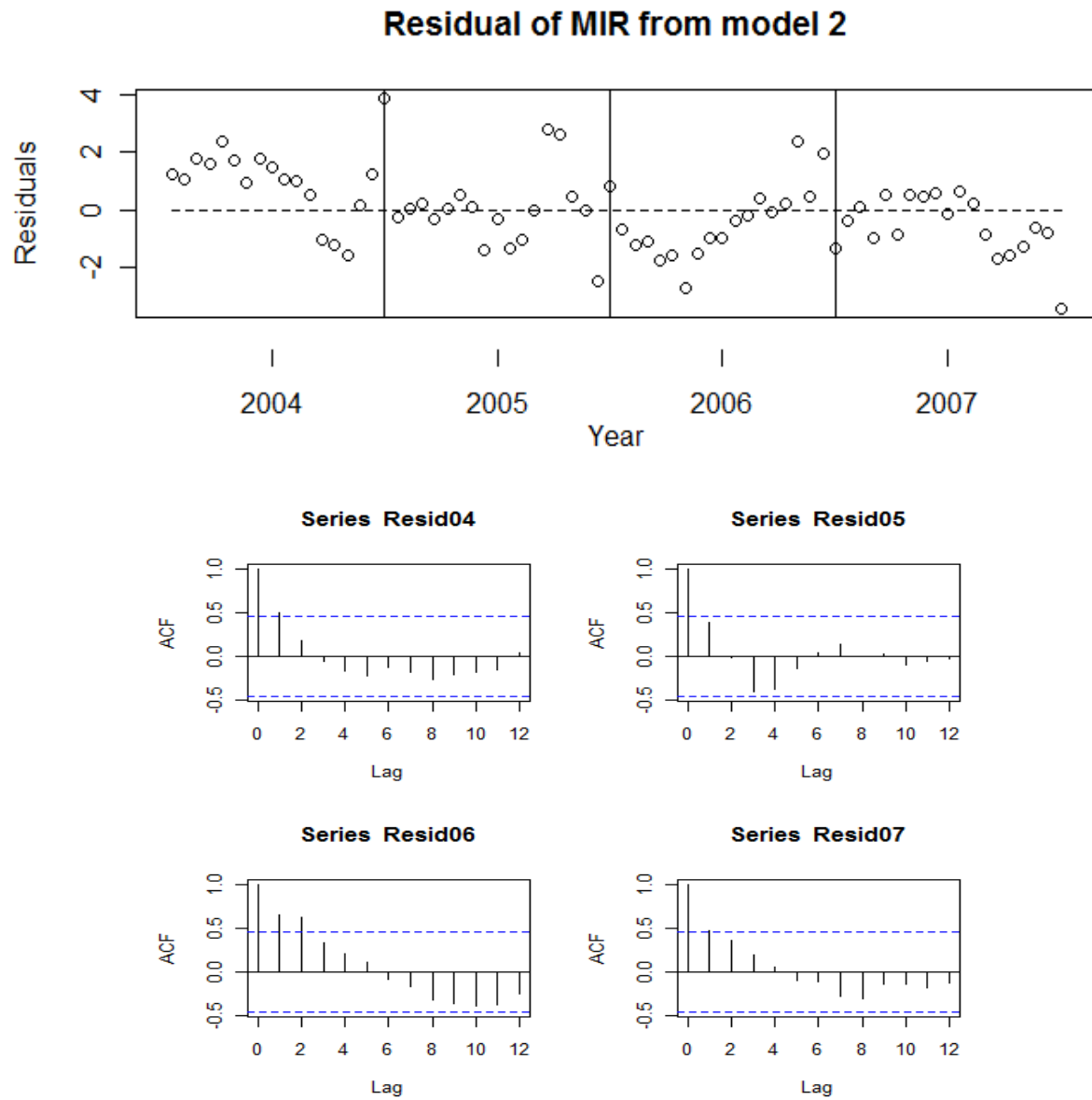
Residual of MIR from model 2

Figure B2. Residuals from model 2 (top) and the Autocorrelation Function (ACF) for the residuals for each year (bottom)
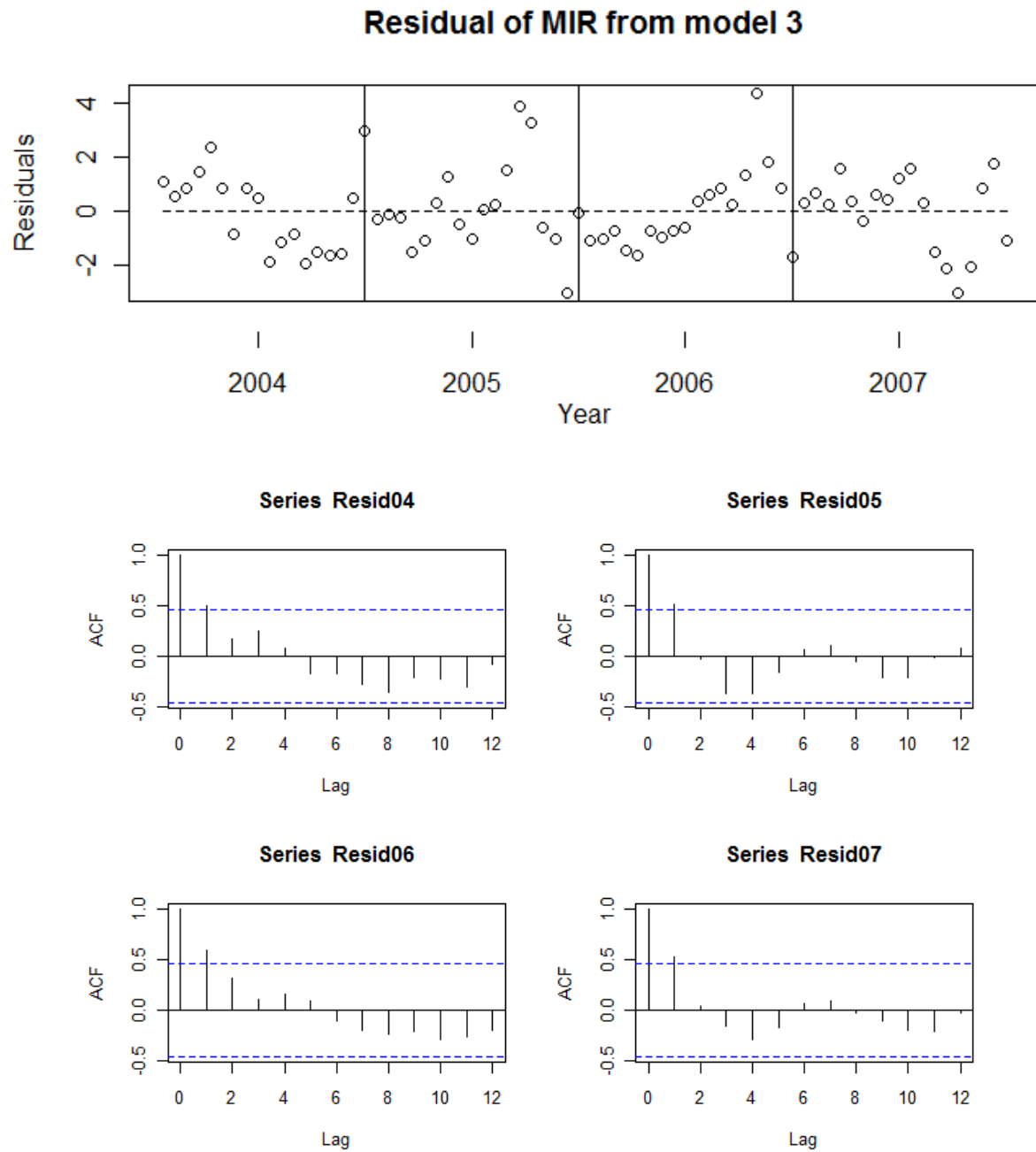
Residual of MIR from model 3

Figure B3. Residuals from model 3 (top) and the Autocorrelation Function (ACF) for the residuals for each year (bottom)

Residual of MIR from model 4

Series Resid04

Series Resid05

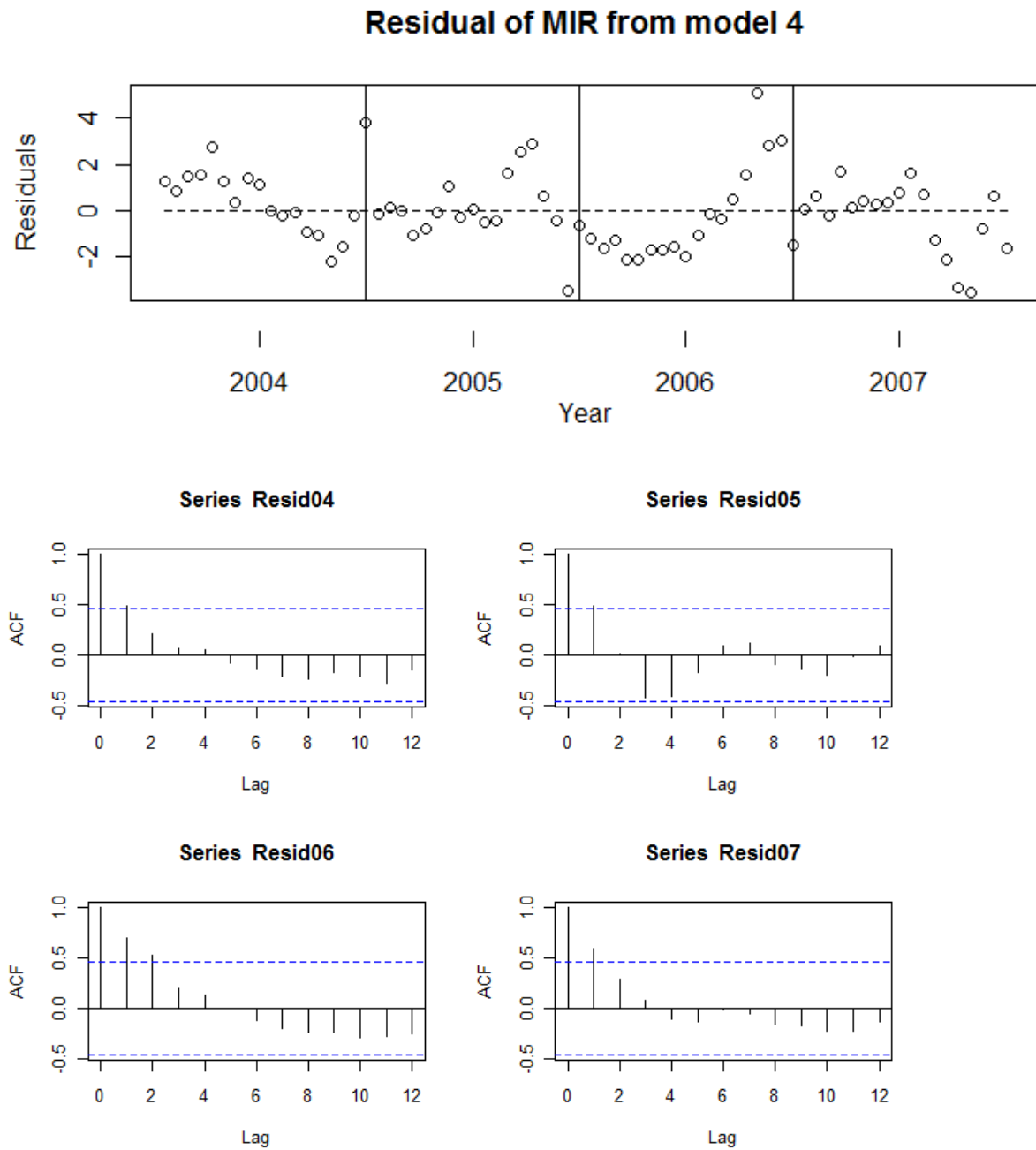## Series Resid06

Series Resid07

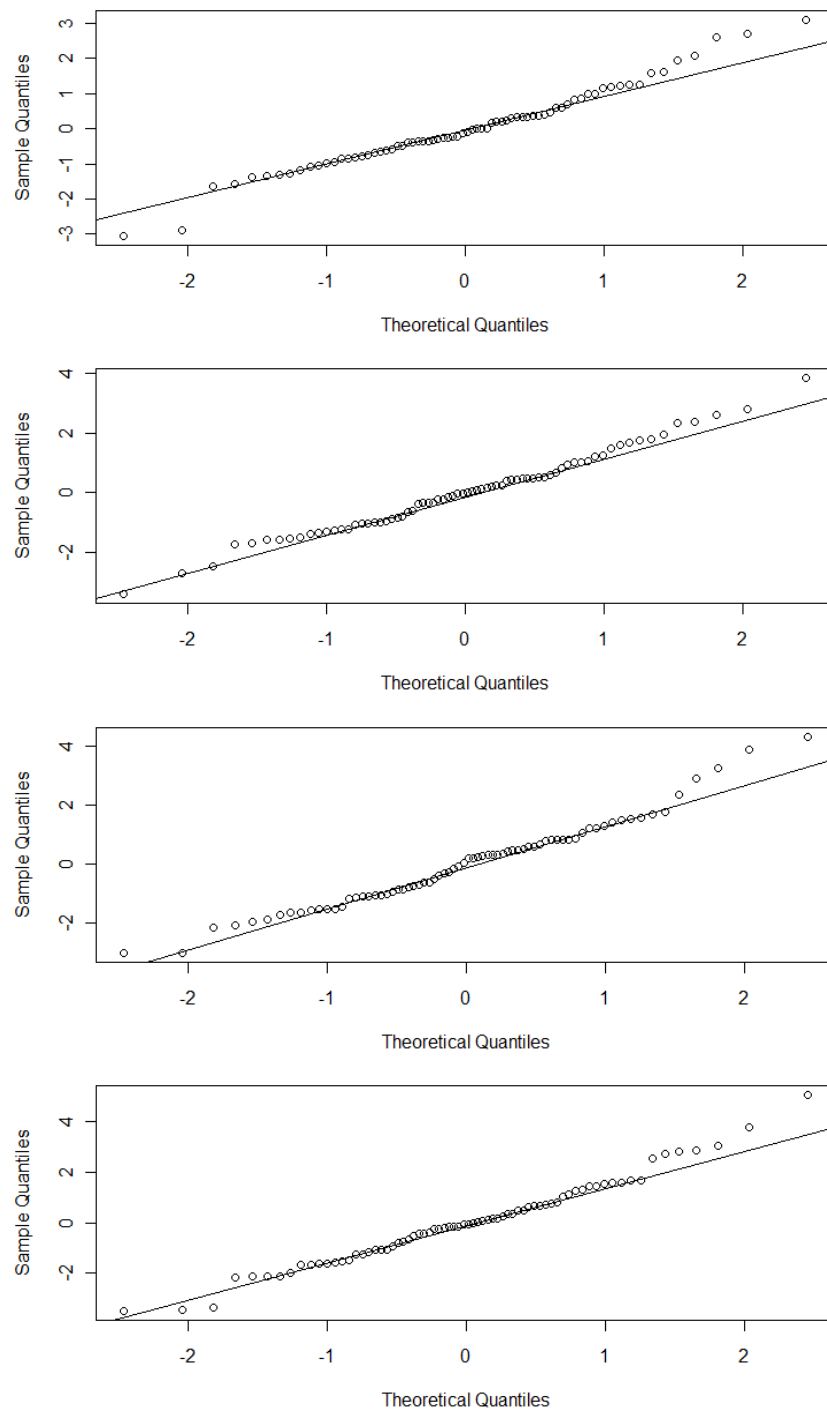Figure B4. Residuals from model 4 (top) and the Autocorrelation Function (ACF) for the residuals for each year (bottom)

Figure B5. Q-Q plot of the residuals in model 1 to 4 (from top to bottom). All years are combined in these plots.

Model 1

$MIR(i,j) = 8.86 * DW(i-1,j) - 19.89 * prcpann\_abn(j-1) + 0.63624 * MIR(i-1,j)$

Model 2

$MIR(i,j) = 23.475 * DW(i-1,j) - 40.47 * prcp\_annual(j-1) + 9.349 * prcp3wk(i-3,j)$

Model 3

$MIR(i,j) = 11.4 * DW(i-4,j) + 0.6 * MIR(i-2,j) - 33.4 * prcp\_annual(j-1)$

Model 4

$MIR(i,j) = 32.5 * DW(i-4,j) + 11.4 * prcp3wk(i-4,j) - 48.2 * prcp\_annual(j-1)$

where the subscript i is the index for weeks, and j the index of year.

C) Equations for the four linear regression models described in the ms Table 2.